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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/409,681	09/30/1999	KEIICHI SODA	2611-0114P	5738

7590 04/15/2003

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EXAMINER

PHILPOTT, JUSTIN M

ART UNIT PAPER NUMBER

2665

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/409,681

Applicant(s)

SODA ET AL.

Examiner

Justin M Philpott

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. In the Amendment filed February 10, 2003, Applicant has amended the specification to correct typographical errors and has amended the claims to correct typographical errors and provide proper antecedent basis. Accordingly, the specification is no longer objected to and the claim objections and the claim rejections under 35 U.S.C. 112, second paragraph set forth in the previous office action have been overcome in view of the Amendment. Applicant has also provided new Figures 16-18 correctly labeled as "Prior Art", and thus, the drawings are no longer objected to by the Examiner. Regarding the Information Disclosure Statement filed September 30, 1999, Applicant has clarified that U.S. Patent No. corresponds to JP A3-157032. Thus, at least an explanation of relevance in the English language has been provided for document JP A3-157032, and accordingly all documents cited in this Information Disclosure Statement have been considered. Finally, Applicant argues that claims 1-3 should be allowed, however, claims 1-3 remain rejected under 35 U.S.C. 103(a) for the reasons discussed in the following office action.

Response to Arguments

2. Applicant's arguments with respect to claims 1-3 have been considered but are not persuasive.

First, Applicant argues that Tanaka does not disclose or suggest a feature of claim 1, specifically, the feature of: transmitting specific information from a specific slave device for

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starting communication with the master device, the specific information being used for matching the sampling time in the master device, and executing specific calculations according to the specified information for returning the specific information from the master device according to the specific information for starting. However, as cited in the previous office action and again cited below, Tanaka clearly teaches the above feature of claim 1. Also, while not relied upon in the rejection of claim 1, Applicant is additionally directed to the prior art described in the specification of the instant application where it is presently noted herein that the specification describing FIGS. 16-18 includes: the slave device (2) transmits specific information for starting (information for matching sampling time) used for matching the sampling time in the master device (e.g., see specification page 1, line 25 – page 2, line 3) and executes specific computing (calculates a time interval T_s , e.g., see page 3, line 14) according to the specified information for returning (e.g., see page 3, lines 18-22 regarding ascending sampling information) from the specific information from the master device according to the specific information for storing.

Second, Applicant argues that Tanaka “is accomplished based on joint communication between a mobile device and various base stations” and thus, does not teach the features of claim 1 (page 21). Without specific reference to the features of claim 1, however, Applicant’s argument that Tanaka does not teach one or more features of claim 1 is not persuasive. That is, Applicant has not provided sufficient evidence that Tanaka does not teach one or more features of claim 1. If Applicant has intended to argue that Tanaka teaches devices which are mobile, as opposed to stationary, a limitation with respect to mobility is not included in claim 1 and thus, any argument relating to mobility is moot. Furthermore, Applicant is reminded that claim 1 is rejected under 35 U.S.C. 103(a) as being anticipated by FIGS. 16-18 in view of Tanaka. Thus, in

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response to Applicant's arguments against Tanaka individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Third, Applicant argues that there is no motivation to combine FIGS. 16-18 with Tanaka. In the previous office action, and cited in the office action below, Tanaka's teachings of synchronization are shown to benefit a multiplexing communication network requiring synchronization wherein delay time is an important consideration, such as in the system of FIGS. 16-18 (page 6). However, additional explanation for the motivation to combine the teachings of Tanaka to the system of FIGS. 16-18 as requested by Applicant is provided in the following: FIGS. 16-18 teach a conventional communication network wherein information for matching sampling time is periodically inserted into the sampling information for transmission due to the occurrence of mismatches in sampling time when, e.g., there is a breakdown in a device (e.g., see specification, page 2). Tanaka teaches an improvement in a communication network wherein a synchronization signal processing system comprises a plurality of time division switches and synchronization signal generators whereby signals are transferred even if a breakdown (trouble) occurs in one of the time division switches or one of the synchronization signal generators (e.g., see col. 2, lines 57-65). That is, the teachings of Tanaka overcome the deficiency in a prior art system such as that of FIGS. 16-18 wherein the occurrence of mismatched sampling times due to a breakdown in a device is avoided. Thus, the teachings of Tanaka can be applied to the network of FIGS. 16-18 to provide improved matching of sampling time. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply the

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teachings of Tanaka to the system of FIGS. 16-18 in order to provide improved matching of sampling time, thus improving network operation.

Fourth, Applicant argues that there is no motivation to utilize a round-robin technique for the master device to specify any of the slave devices via the multiplexer. However, as cited in the previous office action, FIGS. 16-18 clearly teach a tree configuration wherein a master device (1) is connected to a plurality of slave devices (2), and wherein each of the slave devices have the same hierarchical level within the tree structure. Furthermore, FIGS. 16-18 teach packet multiplexer (8) coupling the master device to the slave device. Additionally, it is well known in the art of coupling a master device to a plurality of slave devices of the same hierarchical level by multiplexing means to utilize the commonly known technique of round-robin. For example, reference is made to the four documents cited at the end of this office action, wherein each document teaches a round-robin technique is utilized in a configuration which comprises master and slave devices coupled in a tree configuration, thus clearly indicating that such a round-robin technique is well known in the art. As is known in the art, and supported by these cited documents, the technique of round-robin provides for fair and even access among slave devices with the master device, and a multiplexer is commonly known in the art to provide means for round-robin access. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to utilize a technique such as round-robin to provide fair and even access among the slave devices (2) with the master device (1) coupled by means of the packet multiplexer (8).

Finally, Applicant still further argues that because Tanaka and FIGS. 16-18 do not specifically recite utilizing round-robin, they must therefore teach systems which were designed

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specifically not to include the feature of round-robin. However, as discussed above, FIGS. 16-18 specifically teach a tree configuration, wherein a master (1) is connected to a plurality of slave devices (2) such that each of the slave devices have the same hierarchical level within the tree structure, and a packet multiplexer (8) coupling the master device to the slave device to achieve this tree configuration. Thus, FIGS. 16-18 are clearly *not* designed specifically not to include the feature of round-robin. Rather, FIGS. 16-18 are in fact ideally suited to accommodate the feature of round-robin in order to provide fair and even access among the slave devices (2) with the master device (1) coupled by means of the packet multiplexer (8) as discussed above.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's prior art FIGS. 16-18 in view of U.S. Patent No. 5,627,832 to Tanaka et al.

Regarding claim 1, FIGS. 16-18 teach a master device (1) and a plurality of slave devices (2, each connected to respective slave-side ports 12) connected to each other through at least one unit of multiplexer in a tree form (packet multiplexer 8) with the master device at the vertex for transmitting and receiving various types of specific information having a fixed length (via specific packet multiplexing bus 15) to and from the devices each other.

FIGS. 16-18, however, may not specifically disclose the master device specifying slave devices according to a round-robin and also possibly may not specifically disclose the specified

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slave device transmitting specific information for starting used for matching the sampling time in the master device and executing specific computing according to the specified information for returning returned from the master device according to the specific information for starting.

Implementing a multiplexer to specify a device according to a round robin, however, is commonly known in the art as a means for providing fair multiplexing for each device. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to utilize a round robin in a communication network comprising multiplexing means.

Furthermore, Tanaka teaches a system for processing synchronization signals in a communication network whereby a specified slave device (lower hierarchy switching center 25(2), see FIG. 1 and col. 8, lines 33-52) transmits the specific information for starting (i.e., B8 of synchronization signal, see FIG. 4 and col. 8, lines 17-32) used for matching the sampling time in the master device (higher hierarchy switching center 25(1)) and executes specific computing (i.e., computing the lead for multiframe synchronization signal, col. 8, lines 46-52) according to the specified information for returning (propagation delay time in the loop back signal, col. 8, lines 42-46) returned from the master device (higher hierarchy switching center 25(1)) according to the specific information for starting. Tanaka's teachings of synchronization are clearly beneficial to a multiplexing communication network wherein delay time is an important consideration. Thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to apply these teachings of Tanaka to a communication network having a master device and a plurality of slave devices transmitting and receiving specific information to and from each other as in FIGS. 16-18.

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Regarding claim 2, Tanaka further teaches each of the devices transmitting a general information sampled at each of the matched sampling timing and having fixed length (multiframe synchronization signal represented by bit B7, see col. 8, lines 22-32) in addition to the specific information for starting and specific information for returning at a predetermined cycle.

Regarding claim 3, applicant's FIGS. 16-18 teach a multiplexer (8) comprising a master-side port (11) for connecting the master device (1) thereto and slave side ports (12) for connecting the plurality of slave devices (2) thereto for mutual communication, a master-destined general information receiving unit (16) for receiving the general information from the slave-side ports (via general packet multiplexing bus 14), a master-destined specific information receiving unit (17) for receiving the specific information for starting from each of the slave-side ports (via specific packet multiplexing bus 15), a master-destined information selecting unit (18) for selecting any one of the master-destined general information receiving unit (16) or the master-destined specific information receiving unit (17) and allowing output to the master device (1) according to a prespecified method (see applicant's method of priority, page 8, lines 2-20). Furthermore, a slave-destined broadcasting bus for broadcasting information obtained from the master-side port to all of the slave-side ports as well as a master-destined information multiplexing bus for outputting information to the master-side port is inherent according to FIG. 18. That is, arrows on ports 11 and 12 indicate information being broadcast between the master and slave-side ports and their respective devices which would involve communication means such as broadcasting buses.

Allowable Subject Matter

5. Claims 4-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,781,726 to Pereira, U.S. Patent No. 5,883,894 to Patel et al., U.S. Patent No. 6,198,723 to Parruck et al., and U.S. Patent No. 6,246,701 to Slattery each disclose techniques utilizing round-robin in a configuration which comprises master and slave devices coupled in, e.g., a tree configuration.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9314 for regular communications and 703.872.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.305.4750.

Justin M Philpott



April 9, 2003



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SUPERVISORY PATENT EXAMINER
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